

AMENDMENTS TO THE SPECIFICATION:

Please amend the specification as follows:

Please substitute the paragraph beginning at page 3, line 7, with the following.

-- To prevent this, the oxygen concentration in the optical path is suppressed to a low level of several ppm order, or less, by a purge mechanism using inert gas, such as nitrogen in the optical path of the exposure optical system of a projection exposure apparatus using a far ultraviolet laser, such as an ArF excimer laser or a fluorine ( $F_2$ ) excimer laser, as a light source. --

Please substitute the paragraph beginning at page 3, line 14, with the following.

-- In such an exposure apparatus using an ArF excimer laser beam with a wavelength around far ultraviolet rays, particularly, 193 nm, or a fluorine ( $F_2$ ) excimer laser beam with a wavelength around 157 nm, an ArF excimer laser beam or fluorine ( $F_2$ ) excimer laser beam is readily absorbed by a substance. The optical path must be purged to several ppm order or less. This also applies to moisture, which must be removed to the ppm order or less. --

Please substitute the paragraph beginning at page 4, line 9, with the following.

-- As described above, an exposure apparatus using ultraviolet rays, particularly, an ArF excimer laser beam or fluorine ( $F_2$ ) excimer laser beam suffers from large absorption by oxygen and moisture at the wavelength of the ArF excimer laser beam or fluorine ( $F_2$ ) excimer laser beam. To obtain a sufficient transmittance and stability of ultraviolet rays, the oxygen and moisture concentrations must be reduced. --

Please substitute the paragraph beginning at page 4, line 21, and ending on page 5, line 6, with the following.

-- However, vibration sources such as the motors and air compressors of various units installed on the floor and units to be isolated from vibrations, such as a projection optical system, an alignment system, a laser interferometer, and a stage, supported by a vibration isolating mechanism, coexist in an exposure apparatus. For this reason, if a space between the vibration sources and the units is purged with inert gas, vibrations are transmitted through a connecting member arranged between them to sustain airtightness. Consequently, the units supported by the vibrations isolating mechanism vibrate, thereby causing a reduction in exposure precision, and the like. --

Please substitute the paragraph beginning at page 6, line 21, with the following.

-- According to a preferred embodiment of the present invention, the connecting member is preferably made of resin, rubber (e.g., fluororubber), or the like. --

Please substitute the paragraph beginning at page 6, line 24, and ending on page 7, line 2, with the following.

-- According to a preferred embodiment of the present invention, the connecting member is preferably made of a material having a thickness of not more than [[2]] two mm. Alternatively, the connecting member is preferably arranged to be resistant to a gage pressure of not more than [[1]] one MPa. --

Please substitute the paragraph beginning at page 9, line 26 with the following.

Fig. 14 is a flow chart showing the flow of the whole manufacturing process of a semiconductor device using the exposure apparatus of the present invention;

Please substitute the paragraph beginning at page 10, line 2 with the following.

Fig. 15 is a flow chart showing the detailed flow of the wafer process using the exposure apparatus of the present invention;

Please substitute the paragraph beginning at page 11, line 5, with the following.

-- It will be described with reference to Figs. 12 and 13 that the airtightness sustaining mechanism of the present invention is ~~more excellent~~ better in flexibility in the shear direction than the conventional airtightness sustaining mechanism. --

Please substitute the paragraph beginning at page 13, line 11, with the following.

-- The airtightness sustaining mechanism 50 comprises a first flange 38a to be connected to the first structure, a second flange 38b to be connected to the second structure, and a tubular or hollow connecting member 37, which connects the first flange 38a and second flange 38b. A "tubular" structure may be any structure with a closed-figure section, such as a polygonal section, as well as a circular section. --

Please substitute the paragraph beginning at page 14, line 9, with the following.

-- By providing one or more three-dimensional portions 37a in the connecting member 37, the airtightness sustaining mechanism 50 can increase the flexibility in the shear (X and Y directions in Fig. 1), compression (Z direction in Fig. 1), and rotation (directions about the X-, Y- and Z-axes, particularly, the direction about the Z-axis) directions. With this structure, even if the connecting member 37 is made of a material with small elasticity, such as a rubber sheet combined with a fabric, the airtightness sustaining mechanism 50 can obtain high flexibility in all of the compression, shear, and rotation directions. --

Please substitute the paragraph beginning at page 14, line 22, and ending on page 15, line 2, with the following.

-- The connecting member 37 is preferably made of resin, rubber (e.g., fluororubber), or the like. A wall member constituting the connecting member 37 preferably has a thickness of [[2]] two mm or less. The connecting member 37 is preferably arranged to be resistant to a gage pressure of [[1]] one MPa or less. The above-mentioned arrangement contributes to an increase in flexibility of the connecting member 37. --

Please substitute the paragraph beginning at page 17, line 23, and ending on page 18, line 10, with the following.

-- The base frame 2 is set on the installation floor of the clean room of a semiconductor manufacturing factory. The base frame 2 is fixed to the floor at high rigidity, and can be

regarded to be substantially integrated with the floor or extend from the floor. The base frame 2 includes three or four high-rigidity columns, and vertically supports the lens barrel surface plate 7 through active dampers (vibration isolating mechanisms) 9 at the tops of the columns. The active damper 9 incorporates an air spring, a damper, and an actuator. The active damper 9 prevents transmission of high-frequency vibrations from the floor to the lens barrel surface plate 7, and actively compensates for the tilt or swing of the lens barrel surface plate 7. --

Please substitute the paragraph beginning at page 22, line 5, with the following.

-- The box-like partition wall 23 also has an opening on a side on which the wafer transfer system 21 is arranged. This opening and an opening formed in a chamber (an example of the second structure) 22, which covers the wafer transfer system 21, are also connected by an airtightness sustaining mechanism 27a having the structure shown in Fig. 1 so as to sustain airtightness. --

Please substitute the paragraph beginning at page 25, line 8, with the following.

-- The lens barrel surface plate 7 and reticle stage 3, which are supported by the active dampers 9, are connected to the chamber 36 of the reticle transfer system 16 and air-conditioned equipment room 8 through the flexible airtightness sustaining mechanisms 28a and 28b, and transmission of vibrations from the chamber 36 and air-conditioned equipment room 8 to the purge chamber is suppressed. --

Please substitute the paragraph beginning at page 25, line 16, with the following.

-- A sectional shape of the connecting member 37 shown in Fig. 1 can be changed to, eg., any one of the shapes shown in Figs. 7 to 9. Each of Figs. 7 and 8, and Fig. 6 described above, shows an example in which a section taken in a direction perpendicular to the axial direction has a certain polygonal shape with a three-dimensional portion, and the three-dimensional portions in Figs. 6 to 8 have different shapes. Fig. 9 shows an example in which a section taken in a direction perpendicular to the axial direction has a circular shape with a three-dimensional portion. --

Please substitute the paragraph beginning at page 25, line 27, and ending on page 26, line 20, with the following.

-- A semiconductor device manufacturing process using the above-described exposure apparatus will be explained. Fig. 14 is a flow chart showing the flow of the whole manufacturing process of a semiconductor. In step 1 (circuit design), the circuit of a semiconductor device is designed. In step 2 (mask formation), a mask is formed on the basis of the designed circuit pattern. In step 3 (wafer formation), a wafer is formed using a material such as silicon. In step 4 (wafer process), called a pre-process, an actual circuit is formed on the wafer by lithography using the mask and wafer device using the exposure apparatus of the present invention. Step 5 (assembly), called a post-process, is the step of forming a semiconductor chip by using the wafer formed in step 4, and includes an assembly process (dicing and bonding) and packaging process (chip encapsulation). In step 6 (inspection), the semiconductor device manufactured in step 5

undergoes inspections such as an operation confirmation test and a durability test. After these steps, the semiconductor device is completed and shipped in step 7. --

Please substitute the paragraph beginning at page 26, line 21, and ending on page 27, line 9, with the following.

-- Fig. 15 is a flow chart showing the detailed flow of the wafer process using the exposure apparatus of the present invention. In step 11 (oxidation), the wafer surface is oxidized. In step 12 (CVD), an insulating film is formed on the wafer surface. In step 13 (electrode formation), an electrode is formed on the wafer by vapor deposition. In step 14 (ion implantation), ions are implanted in the wafer. In step 15 (resist processing), a photosensitive agent is applied to the wafer. In step 16 (exposure), the above-mentioned exposure apparatus transfers a circuit pattern onto the wafer. In step 17 (developing), the exposed wafer is developed. In step 18 (etching), the resist is etched except for the developed resist image. In step 19 (resist removal), an unnecessary resist after etching is removed. These steps are repeated to form multiple circuit patterns on the wafer. --